

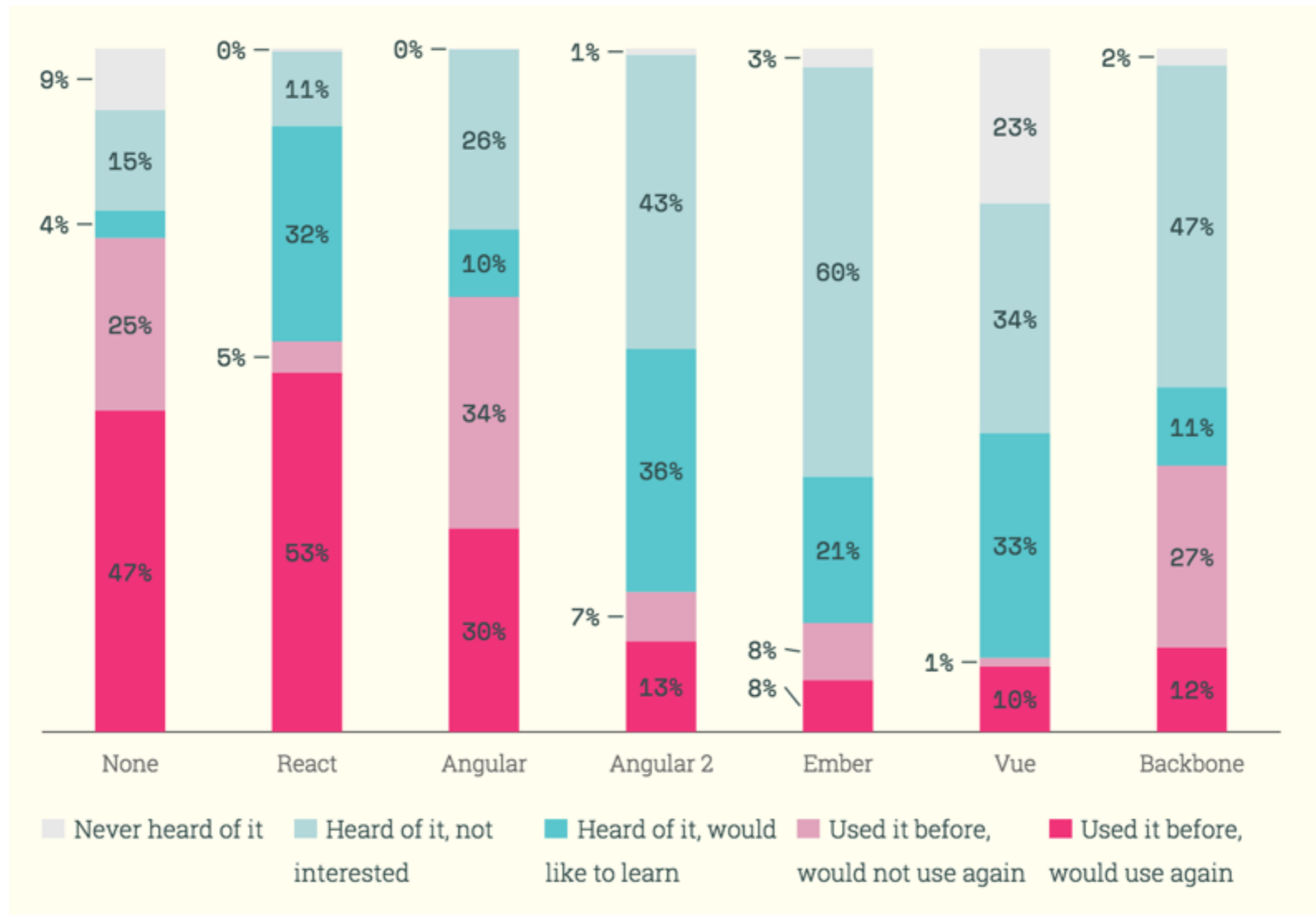
Intro to React

Kevin Yao, SDE @ Expedia

Trends

- Single Page Applications -> better user experience, poor developer experience
- Frameworks to handle complexities and state (Backbone, Angular, Ember, etc)
- Full-stack, multi-platform javascript

<http://stateofjs.com>



What is React?

- Created and open-sourced by Facebook
- Javascript library for building user interfaces
- Why React? It's declarative, component-based, learn-once-write-anywhere

Declarative

- "I eat chicken for dinner" **rather than** "go to kitchen, open fridge, grab chicken, cook chicken, set chicken on table, eat chicken for dinner"
- jQuery only gets you so far
- Handlebars/mustache is more declarative, but really only gets you the first render

Declarative

{ a: "Hello", b: "World" }



```
<div>  
  <div class="a">{a}</div>  
  <div class="b">{b}</div>  
</div>
```

{ a: "Hello", b: "Kevin" }



How to render???

Virtual DOM

- DOM reflows/repaints are expensive
- Diff between two virtual DOM trees, before the state change and after the state change
- Re-render only if something actually changes

```
class HelloMessage extends Component {  
  render() {  
    return <div>Hello {this.props.name}</div>;  
  }  
}
```

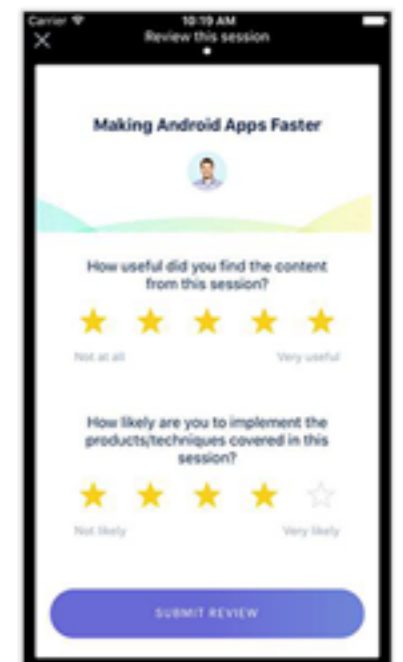
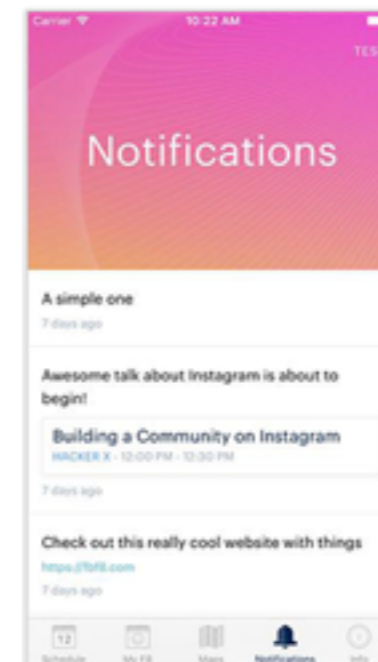
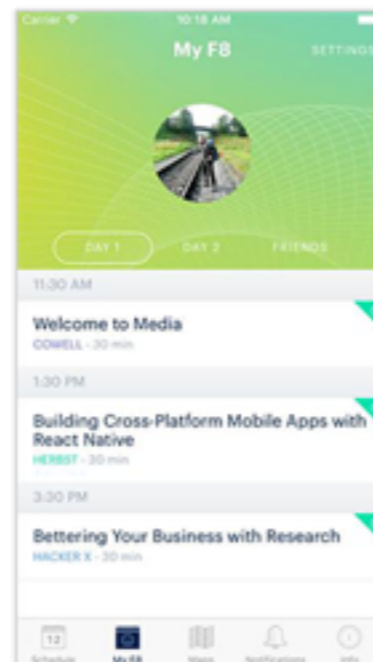
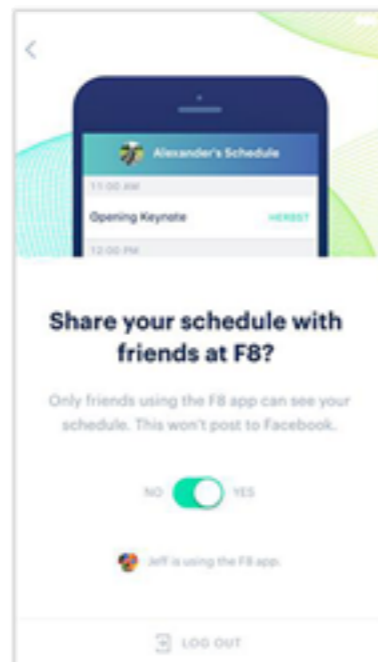
Component-Based

- Levels of abstraction, easier to reason about
- Written in javascript, richer than plain templates
- Components handle their own state, are modular and reusable

```
<App>  
  <HelloMessage name="Header" />  
  <TodoList items=["Eat", "Sleep", "Code"]/>  
  <button>Check all</button>  
</App>
```


Learn Once, Write Anywhere

- Makes no assumptions of your technology stack
- Server rendering
- React + React Native, share components between web, iOS, android. FB teams have seen 85% reuse



create-react-app

- React ecosystem comes with javascript fatigue: *ES6 javascript, JSX, babel, webpack, hot loading, etc...*
- Easy way to get started: <https://github.com/facebookincubator/create-react-app>

Live coding....